Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1 - 6. (canceled)

7. (canceled)

8. (canceled)

9. (previously presented) A portable watch comprising:

a case;

a power supply unit in said case;

a micro controller in said case operatively connected to said power supply unit for receiving power therefrom;

a timekeeping and time indicating unit in said case operatively connected to said micro controller for operation thereby;

a Geiger-Muller counter in said case for detecting radiation and for delivering corresponding signals to said micro controller for calculation of an effective radiation dose therein;

a voltage pulse converter connected between said micro controller and said Geiger-Muller counter for transforming a low voltage from said micro controller into a constant high voltage for transmission to said Geiger-Muller counter; and

a pulse former connected to and between said Geiger-Muller counter and said micro controller for converting impulses from said Geiger-Muller counter into predetermined shapes for processing in said micro controller.

10. (currently amended) [[A]] The portable watch ~~as set forth in~~ of claim [[9]] 17, wherein the first MOSFET switch ~~further comprising a switch key~~ is ~~operatively~~ connected ~~to and~~ between ~~said~~ the micro controller and ~~said~~ the Geiger-Muller counter ~~for periodically switching said Geiger-Muller counter on and off~~ for measuring ~~of~~ radiation ~~Intensity~~ intensity in a gating mode in response to a signal from ~~said~~ the micro controller.

11. (currently amended) [[A]] The portable watch ~~as set forth in~~ of claim [[9]] 17, further comprising a second power supply unit in ~~said~~ the case operatively connected to ~~said~~ the timekeeping and time indicating unit for operation thereof independently of ~~said~~ the micro controller.

12. (currently amended) [[A]] The portable watch ~~as set forth in~~ of claim [[9]] 17, wherein ~~said~~ the pulse former has an ~~inlet~~ input connected to a low-voltage side of a power supply filter capacitor of ~~said~~ the Geiger-Muller counter and an ~~outlet~~ output connected to ~~said~~ the micro controller.

13. (currently amended) [[A]] The portable watch ~~as set forth In~~ of claim [[9]] 17, wherein ~~said~~ the voltage pulse converter includes a transformer having a primary winding operatively connected to ~~said~~ the micro controller and a secondary winding connected to a cathode of ~~said~~ the Geiger-Muller counter for applying a reference voltage to ~~said~~ the cathode.

14. (currently amended) [[A]] The portable watch ~~as set forth In~~ of claim 13, further comprising a switch key operatively connected to and between ~~said~~ the micro controller and ~~said~~ the primary winding of ~~said~~ the transformer, a threshold device operatively connected to and between ~~said~~ the primary winding and ~~said~~ the micro controller and a rectifier having a filter

operatively connected to and between ~~said~~ the secondary winding and ~~said~~ the cathode of ~~said~~ the Geiger-Muller counter for passing voltage to ~~said~~ the cathode.

15. (currently amended) [[A]] The portable watch ~~as set forth in~~ of claim [[9]] 17, further comprising a display section on ~~said~~ the case for displaying an indication of the accumulated radiation dose.

16. (canceled)

17. (new) A portable watch comprising:

a case;

a power supply in the case;

a micro controller in the case connected to the power supply for receiving power therefrom;

a timekeeping and time indicating unit in the case connected to the micro controller for operation thereby;

a Geiger-Muller counter in the case for detecting radiation and for delivering corresponding signals to the micro controller for calculation of an effective radiation dose rate;

a voltage pulse converter connected between the micro controller and the Geiger-Muller counter for transforming a low voltage from the micro controller into a constant high voltage for transmission to the Geiger-Muller counter, wherein the voltage pulse converter is controlled by the micro controller using a first MOSFET switch;

a second MOSFET switch controlled by the micro controller and connected to the Geiger-Muller counter for forcing the Geiger-Muller counter to turn off;

a threshold device connected to the micro controller and to the voltage pulse converter to control the constant high voltage, the threshold device receiving a control input at a first bipolar transistor; and

a pulse former connected to and between the Geiger-Muller counter and the micro controller for converting impulses from the Geiger-Muller counter into predetermined shapes for processing in the micro controller, the pulse former including a second bipolar transistor whose output is connected to the micro controller.

18. (new) A portable watch comprising:

a watch case enclosing a power supply, a micro controller receiving power from the power supply, and a timekeeping unit controlled by the micro controller;

a Geiger-Muller counter in the watch case, the Geiger-Muller counter being connected to the micro controller for calculation of an effective radiation dose rate;

a voltage pulse converter connected between the micro controller and the Geiger-Muller counter for transforming a low voltage from the micro controller into a constant high voltage supplied to the Geiger-Muller counter, wherein the voltage pulse converter is controlled by the micro controller using a first switch;

a second switch controlled by the micro controller and connected to the Geiger-Muller counter for forcing the Geiger-Muller counter to turn off;

a threshold device connected to the micro controller and to the voltage pulse converter to control the constant high voltage, the threshold device receiving a control input at a first transistor;

a pulse former connected between the Geiger-Muller counter and the micro controller for converting impulses from the Geiger-Muller counter, the pulse former including a second transistor whose output is connected to the micro controller; and

a rectifier connected between the pulse former and the cathode of the Geiger-Muller counter.

19. (new) The portable watch of claim 19, wherein the first switch is a CMOS switch.

20. (new) The portable watch of claim 20, wherein the second switch is a CMOS switch.

21. (new) The portable watch of claim 20, wherein the voltage pulse converter includes a transformer having a primary winding connected to the micro controller and a secondary winding connected to a cathode of the Geiger-Muller counter.

22. (new) The portable watch of claim 21, further comprising a rectifier having a filter connected between the secondary winding and the cathode of the Geiger-Muller counter.

23. (new) The portable watch of claim 18, wherein the second switch is connected to the cathode of the Geiger-Muller counter.

24. (new) The portable watch of claim 18, wherein the first transistor is a bipolar transistor.

25. (new) The portable watch of claim 18, wherein the second transistor is a bipolar transistor.

26. (new) A portable watch comprising:

a watch case enclosing a power supply, a micro controller receiving power from the power supply, and a timekeeping unit connected to the micro controller and controlled by the micro controller;

a Geiger-Muller counter in the watch case, the Geiger-Muller counter being connected to the micro controller for calculation of an effective radiation dose rate;

a voltage pulse converter connected between the micro controller and an anode of the Geiger-Muller counter for transforming a low voltage from the micro controller into a constant high voltage supplied to the Geiger-Muller counter, wherein the voltage pulse converter is controlled by the micro controller using a first switch;

a second switch controlled by the micro controller and connected to a cathode of the Geiger-Muller counter;

a threshold device connected to the micro controller and to the voltage pulse converter to control the constant high voltage, the threshold device receiving a control input at a first transistor;

a pulse former connected between the Geiger-Muller counter and the micro controller for converting impulses from the Geiger-Muller counter; and

the voltage pulse converter including a first rectifier connected between the pulse former and the anode of the Geiger-Muller counter,

wherein the pulse converter includes a transformer having a primary winding connected to the micro controller and a secondary winding connected to a cathode of the Geiger-Muller counter through a second rectifier.

27. (new) The portable watch of claim 26, wherein the micro controller also calculates an effective radiation dose.